

U.S. PATENT APPLICATION
SERIAL NO.: 10/790,387
AMENDMENT A

ATTY DOCK: 3926.071

REMARKS

Applicants appreciate the indication of allowable claims.

Applicants have carefully amended the claims to present claims 14-16, 18, 23-25, and 27 in independent form.

Since claims 14 and 15 are related and both allowable, and since claims 23 and 24 are related and both allowable, Applicants incorporate the limitation of claim 15 into claim 14, canceling claim 15, and incorporate the limitation of claim 24 into claim 23, canceling claim 24.

Claims 19-20 and 28-29 depend from allowable claims. Antecedent basis for "the seam end" has been added to claims 22 on.

Claim 12 has been canceled.

Applicants respectfully submit that claims 13 and 22, and dependent claims 17, 21 26 and 30 are allowable and accordingly respectfully request review and reconsideration of the Office Action of November 22, 2004 in view of the above amendments and the following remarks.

Office Action

The paragraphing of the Examiner is adopted.

Paragraph 1 (Abstract)

The Examiner objects the abstract to because on line 8 the words "present invention" are superfluous and on line 9 the word "comprised" is legal phraseology.

A replacement Abstract is submitted herewith.

Paragraphs 2 (Drawings)

The Examiner requires Applicants to furnish a drawing to facilitate understanding of the invention.

A proposed drawing sheet is attached. Upon approval of the drawing, Applicants will prepare a formal drawing and amend the specification to correspond to the drawing. The drawing is self explanatory.

Paragraphs 3

The Examiner notes that in claims 14 and 15 on lines 1 and 2 there is no antecedent basis for "the local beam movement". In claim 18 on lines 1 and 2 there is no antecedent basis for "the terminal seam segment".

Applicants have incorporated into claims 14 and 15 language from claim 13, thereby providing antecedent basis.

Paragraph 4 (Claim Rejections - 35 U.S.C. §112)

Claims 13, 20 and 22-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner objects to "and/or" in claim 13.

Applicants amend claim 13 from "(a) and/or (b)" to "at least one of (a) and (b)".

Regarding "through the seam segment" in claim 20, Applicants adopt the Examiner's recommendation and change this to "along the seam segment".

Regarding claim 22, Applicants amend this claim to the format "at least one of (a), (b) and (c)".

Withdrawal of the rejections is respectfully requested.

Paragraphs 5, 6 and 7 (Claim Rejections - anticipation)

Claims 12, 17, 22 and 26 are rejected under 35 U.S.C. §102(b) as being anticipated by Ishida in Japan Patent No. 55-114,490.

Applicants respectfully traverse.

An "anticipation" rejection requires that every element of the claim be found in the reference.

In the welding process of Ishida, as the laser beam approaches the seam end, the laser is defocused, expanding the weld area and decreasing weld power/unit area.

However, Ishida requires the "resonator" (laser) to have constant output (and thus be thermally stable). Ishida accordingly does not teach that the laser beam power should be reduced near the seam end according to our claims 22 and 26.

Claim 12 has been canceled. Claim 13 was not rejected under this paragraph. Claim 13 requires that, as the laser beam approaches the seam end, the weld speed is reduced or local beam

movement occurs sideways (transverse) to the seam. Ishida has no such teaching.

Claims 17 and 26 depend from claims 12 and 22.

The Examiner appears to concede that Ishida does not teach sideways or lateral moving of the beam (including spiral, circular, decreasing spiral).

Accordingly, withdrawal of rejections based on Ishida is respectfully requested.

Next, claim 22 is rejected under 35 U.S.C. §102(b) as being anticipated by Aoki in Japan Patent No. 3-60,883.

Applicants respectfully traverse.

Aoki does teach the possibility of moving slower at the seam ends, but in so doing forms a "projecting part" at the seam ends (starting and finishing end). Thus, Aoki teaches that slow welding at the seam ends produces defects. More importantly, Aoki does not teach reducing power at seam ends. Thus, Aoki does not anticipate claim 22.

Paragraphs 8, 9, 10 and 11 (Claim Rejections - obviousness)

Claim 13 is rejected under 35 U.S.C. §103(a) as being obvious over Ishida in Japan Patent No. 55-114,490 in view of Aoki in Japan Patent No. 3-60,883.

Applicants respectfully traverse.

Claim 13 requires defocusing when approaching the seam end, and, in addition, at least one of (a) **reducing** welding speed and (b) moving the beam locally sideways near the seam end.

Ishida teaches that as the laser beam approaches the seam end, the laser is defocused in order to reduce power/unit area. Reducing welding speed is the antithesis to defocusing. As welding speed is reduced, power per unit area **increases**. Thus, reducing speed is contrary to Ishida. If anything, Ishida would suggest to the person of ordinary skill that speed should be increased in order to achieve the desired reduction in power per unit area.

As conceded by the Examiner, Ishida does not teach slowing or sideways movement.

Aoki teaches slowing without de-focusing, forming a projection at the seam ends.

These two conflicting teachings can not be combined. To defocus would destroy the teaching of Aoki. There is no teaching in Aoki that would direct one to combining with Ishida to arrive at the present invention.

Claims 21 and 30 (width of lateral beam movement) are rejected under 35 U.S.C. §103(a) as being unpatentable over Ishida in Japan Patent No. 55-114,490 in view of Johnson et al. in US Patent No. 4,873,415. Johnson et al teach moving a high density laser energy beam along a weave pattern with a width great enough to bridge a lapped joint.

Applicants submit that bridging a lapped joint has nothing to do with lateral movement to dissipate energy and prevent crater formation.

In any case, claims 21 and 30 are allowable by virtue of their dependency from allowable main claims.

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Paragraphs 12, 13 (Allowable Subject Matter)

Claims 14-16, 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 20, 23-25, 27-29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office Action and to include all of the limitations of the base claim and any intervening claims.

Applicants appreciate the indication of allowable claims.

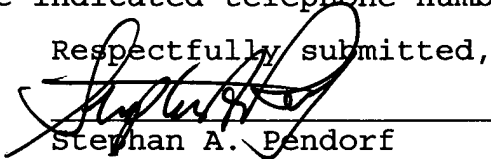
Applicants have carefully amended the claims to present claims 14-16, 18, 23-25, and 27 in independent form.

Claims 19-20 and 28-29 depend from allowable claims.

Claim 12 has been canceled.

Accordingly, early issuance of the Notice of Allowance is respectfully requested. Should the Examiner have any further suggestions regarding claims 12-30, he is respectfully requested to contact the undersigned at the indicated telephone number.

Respectfully submitted,


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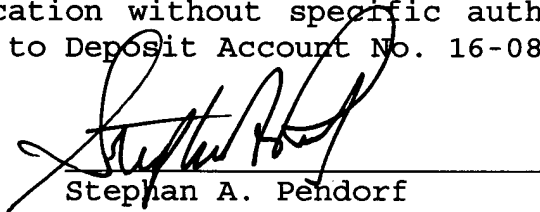
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CERTIFICATE OF MAILING AND AUTHORIZATION TO CHARGE

I hereby certify that the foregoing AMENDMENT A, SUBMISSION OF FORMAL DRAWING AND REQUEST FOR INTERVIEW for U.S. Application No. 10/790,387 filed March 1, 2004, were deposited in first class U.S. mail, postage prepaid, P.O. Box 1450, Alexandria, VA 22313-1450, on **December 10, 2004**.

The Commissioner is hereby authorized to charge any additional fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account No. 16-0877.



Stephan A. Pendorf